BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
The Establishment of Policies and Service Rules	)	IB Docket No. 99-81
for the Mobile Satellite Service in the 2 GHz Band	)	RM-9328

To: The Commission

COMMENTS

BT North America Inc., Hughes Telecommunications and Space Company, Telecomunicaciones de Mexico and TRW Inc. (together, the "ICO USA Service Group" or "IUSG"),[1] by their attorneys and pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, hereby comment on the Commission's Notice of Proposed Rulemaking in the above-captioned proceeding.[2] The IUSG urges the Commission to bring to a swift conclusion, at the request of ICO Services Limited ("ICO"), the processing of the applications pending before it for authority to establish satellite systems to operate in the 1990-2025/2165-2200 MHz frequency bands (the "2 GHz bands"). In the interest of establishing a viable and competitive 2 GHz MSS at the earliest possible time, the IUSG asks the Commission to adopt promptly the Negotiated Entry Approach proposed in the NPRM for the licensing of 2 GHz MSS satellite systems, as modified by the suggestions herein.

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1 The IUSG is comprised of established communications-oriented companies that are investors in ICO Services Limited ("ICO"), and which may also be providers of ICO mobile satellite services ("MSS") in the United States.

2 The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, IB Docket No. 99-81, RM-9328 (FCC 99-50), slip op. (released March 25, 1999) ("NPRM").

I. Introduction

In its NPRM, the Commission correctly identifies a host of important issues requiring resolution in this proceeding so that the 2 GHz MSS can successfully be established. The Commission raises, inter alia, the following vital questions:

- How can the Commission promote MSS competition by creating opportunities for new 2 GHz MSS entrants?[3]
- How can the Commission expedite the 2 GHz MSS authorization process?[4]
- How can the Commission provide incentives for system operators to commence service to the public promptly using state-of-the-art technology?[5]
- How can the Commission afford satellite operators maximum flexibility to design their systems so as to promote innovative system design and best meet the needs of consumers?[6]
- How can the Commission insure the efficient use of assigned spectrum and prevent spectrum warehousing?[7]
- How can the Commission design a licensing plan that accounts for the fact that the proposed 2 GHz MSS systems have different implementation schedules, and that some may not proceed with implementation for several years, if ever?[8]
- How can the Commission ensure that later entrants to the 2 GHz MSS marketplace are not disadvantaged with respect to earlier entrants in their access to

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[3] See id. at 2 (¶ 1).

[4] See id.

[5] See id.

[6] See id. at 11 (¶ 16).

[7] See id. at 11, 41 (¶¶ 16, 89).

[8] See id. at 17, 19, 21 (¶¶ 32, 39, 45).

spectrum in any negotiations or coordination regarding spectrum access?[9]

- How can the Commission facilitate a manageable relocation of 2 GHz incumbent licensees out of the 2 GHz MSS bands and/or facilitate interservice sharing?[10]

- Which licensing option would best facilitate the Commission's international coordination of 2 GHz MSS systems?[11]

While each of the licensing proposals suggested by the Commission in the NPRM responds to at least some of these concerns, the IUSG believes strongly that only one has the potential to resolve all of them successfully. Specifically, the Commission's Negotiated Entry Approach offers a means of permitting the early commencement of 2 GHz MSS as envisioned by the Commission,[12] while requiring neither premature commitments by system operators to particular transmission techniques, nor the establishment of an arbitrary band plan that will inevitably require wholesale modification and repeated efforts at domestic and international coordination at a later date. As modified in the IUSG Negotiated Entry Approach ("INEA") described herein -- which incorporates the relocation plan advocated by the IUSG in the Commission's 2 GHz spectrum allocation proceeding -- this licensing method would also:

- promote efficient use of spectrum by authorizing only those applicants that demonstrate that they satisfy basic eligibility standards;

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9 See id. at 20 (¶ 41).

10 See id. at 19, 50 (¶¶ 39, 112-113). In this connection, the IUSG notes ICO's view on the Commission's relocation policies and the concerns of ICO and Commissioner Ness regarding the global implications of those policies for the satellite industry.

11 See id. at 20, 49-50 (¶¶ 43, 108-111).

12 See id. at 9 (¶ 12).

- ensure prompt, reliable and equitable spectrum access to later entering MSS operators
- allow for flexibility in spectrum assignments to permit modifications as existing satellite systems are developed and new systems are established; and
- minimize disruption of incumbent licensee operations while simultaneously limiting relocation expenses to be borne by new MSS licensees.

The IUSG therefore urges that the Commission swiftly adopt the INEA, as well as the other complementary recommendations set forth in the instant pleading.[13]

II. The INEA Offers the Most Simple, Streamlined and Effective Solution to the Challenge of Establishing a Viable 2 GHz MSS.

Under the Negotiated Entry Approach as set forth in the NPRM, all qualified 2 GHz MSS applicants will be granted authorizations to provide service anywhere in the relevant 2 GHz MSS band conditioned on (1) subsequent negotiation among the system proponents as to which frequencies each system will use, and (2) subsequent technical coordination among the system proponents as to the operational parameters of each system so that none will cause harmful interference to any other authorized 2 GHz MSS system.[14] The benefit of this general approach, as the Commission accurately observes, is that it will give satellite system proponents the flexibility to provide service to the public based on business needs and market forces rather than in

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[13] The IUSG described a predecessor to INEA in its Reply Comments in the Commission's proceeding on Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service (ET Docket No. 95-18). See Reply Comments of the ICO USA Service Group at Appendix A (filed March 5, 1999). The INEA constitutes a reiteration and refinement of that plan.

[14] See NPRM, FCC 99-50, slip op. at 19-20 (¶ 40).

accordance with artificial restraints.[15] It will also permit system proponents to implement or update their system designs to incorporate new technologies prior to and during the construction process, rather than forcing them to commit to today's technologies years before many are ready to employ them -- merely for the sake of conforming to arbitrary band assignments.[16]

As proposed by the Commission, however, the Negotiated Entry Approach leaves many of the important issues and concerns noted in the NPRM unaddressed. The IUSG therefore recommends the following additions and modifications, which, together with the basic Negotiated Entry Approach offered by the Commission, constitute the INEA.

A. Eligibility Standards

In order to implement a proper 2 GHz MSS licensing plan, the Commission must first establish appropriate eligibility standards for system proponents. For the sake of simplicity and consistency, the IUSG recommends that the Commission base its 2 GHz MSS eligibility standards on those previously adopted for MSS in the 1.6/2.4 GHz bands (the "Big LEO" service) -- a service with which 2 GHz MSS will directly compete. To the extent, however, that mutual exclusivity does not exist among applicants in the 2 GHz MSS band, the IUSG agrees with the Commission that there would be no need to apply to 2 GHz MSS applicants the financial qualification standard incorporated into the Big LEO rules.[17] As discussed further below, the IUSG believes that the Commission can achieve its longstanding goal of ensuring the efficient use

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15 See id. at 20 (¶ 41).

16 See id.

17 See id. at 14 (¶¶ 23-25).

of spectrum by applying strict construction milestones, measured from the date of issuance of a conditional license, to all conditionally licensed systems instead.[18]

B. Conditional Licensing Across the 2 GHz MSS Bands

As indicated above, the IUSG generally supports the Commission's proposal to license qualified 2 GHz MSS applicants conditionally across the entire 2 GHz MSS bands. Conditional licensing will enable qualified system proponents to proceed with construction of their systems with some assurance that their efforts will not be in vain, while providing them with sufficient credibility to be able to raise the funds without which construction would be impossible.[19] Licensing across the entire 2 GHz MSS bands will enable qualified systems maximum operational flexibility as they negotiate for spectrum and coordinate with other systems in the same bands.

While the IUSG favors the conditional licensing of 2 GHz MSS non-geostationary orbit

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[18] With regard to qualification requirements, the Commission notes in the NPRM that one applicant seeks authority in its application to provide Aeronautical Mobile-Satellite Route Service ("AMS(R)S") in the 2 GHz bands, and solicits comment on the feasibility of providing such service in those bands. See id. at 13 (¶¶ 20-22). The IUSG believes that the instant proceeding is not the proper venue in which to resolve that matter. As the Commission observes, provision of such world-wide service will require the implementation of priority and preemptive access throughout the world. See id. at 13 (¶ 21). Accordingly, it appears that supporting international regulatory provisions for the 2 GHz MSS bands may need to be adopted to permit coordination of the operations in question with other satellite systems and aviation authorities in other countries. See id. Such provisions would more appropriately be considered and adopted, if necessary, before the International Telecommunication Union ("ITU"), and the Commission should therefore leave the matter for resolution by that body.

[19] Final system licenses should be granted upon the satisfaction of all system milestones, as discussed further below.

("NGSO") satellite systems across the full 2 GHz MSS bands, however, it urges the Commission to conditionally license geostationary orbit ("GSO") systems within appropriate portions of those parts of the 2 GHz MSS bands that have been allocated for regional service. Specifically, the IUSG recommends that GSO systems be conditionally licensed within the 2015-2025 MHz and 2165-2175 MHz bands. As the natural limitations of GSO systems prevent them from serving the entire globe, it is proper that they not be permitted to make what would amount to inefficient use of spectrum that has been designated for that purpose. Because NGSO systems are capable of serving the entire world, they should be allowed to make use of any 2 GHz MSS spectrum that is available for use provided that satisfactory coordination agreements can be reached as necessary with other system operators.

C. Frequency Agility

One of the chief virtues of the Commission's Negotiated Entry Approach is the flexibility that it gives satellite operators to move their operations within the 2 GHz MSS bands as needed to accommodate new MSS entrants, or for the purpose of adopting new system technologies. In order that all 2 GHz MSS systems may enjoy such flexibility, it is important that the Commission require that all NGSO 2 GHz MSS systems have reasonable frequency agility such that they can operate anywhere within a 70 percent portion of the 2 GHz bands.[20] For the same reasons, the Commission should require that all 2 GHz GSO MSS systems have reasonable frequency agility

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[20] Such frequency agility will also enable 2 GHz MSS systems to minimize the disturbance of 2 GHz incumbent licensee operations, and thereby make at least some relocation of incumbent licensee operations unnecessary.

such that they can operate anywhere within a 70 percent portion of the sub-bands of Regional 2 GHz MSS spectrum allocated for GSO systems.[21] Thus, all 2 GHz MSS systems should be authorized to operate across the entire 2 GHz bands designated for their use; all 2 GHz MSS systems operators should be required to construct their systems so as to be capable of operating anywhere within a 70 percent portion of those bands.

D. Intersystem Coordination

The Commission's Negotiated Entry Approach quite reasonably requires negotiation and coordination among conditionally licensed 2 GHz MSS system operators so that the operations of one system do not interfere with those of another. It is essential, however, that the Commission not give system proponents that are not yet ready to enter the 2 GHz MSS marketplace -- and may, indeed, never be ready -- any ability to use such discussions as a tool for delaying market entry by those system operators that will be ready to provide service to the public in the near future.

For this reason, the Commission must not make market entry by any individual system operator contingent on resolution of spectrum location and coordination issues among all conditionally licensed system operators. Rather, it should permit early market entrants that satisfy all construction milestones to provide service anywhere in the available 2 GHz MSS bands, subject to negotiation and coordination with later arrivals if and when such later arrivals have met

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[21] As noted above, the IUSG recommends that the sub-bands to be used for this purpose be the 2015-2025 MHz and 2165-2175 MHz bands.

the same milestones.[22] A system proponent should be found eligible to coordinate its system with other 2 GHz MSS systems and to clear and obtain access to 2 GHz MSS spectrum provided that it has:

- filed a request for ITU frequency coordination;
- met the developmental milestones proposed in the NPRM and herein; and
- demonstrated that it has entered into an unconditional launch contract and is within one year of the launch of its first satellite.

This approach will afford the earliest possible provision of 2 GHz MSS service to the user public, while causing no unfair competitive harm to later market entrants. It will also spare the operators of viable MSS systems the cost of engaging in complex negotiations with systems that may never attain operational status -- whether such failure is due to problems in financing, strategic development, cost, market demand or some other reason such as willful delay.

E. Guaranteed Spectrum Access for Later MSS Entrants

The IUSG acknowledges the Commission's concern that, under its Negotiated Entry Approach (or some variant thereon), earlier entrants to the 2 GHz MSS market might attain a strategic advantage in using the spectrum that could mitigate their desire to negotiate in good faith with subsequent first round entrants and thereby slow entry by other system operators.[23] While the IUSG believes that any such strategic advantage is purely theoretical, it would support

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22 See NPRM, FCC 99-50, slip op. at 19-20 (¶ 40) (seeking comment on whether there should be a threshold requirement that would trigger a system's right to negotiate spectrum location and coordinate technically with operational systems).

23 See id. at 20 (¶ 41).

the conditioning of the licenses of all 2 GHz MSS systems to forbid all claims of priority in coordination with subsequent market entrants in the Commission's first 2 GHz MSS processing round.

In addition, the Commission may wish to provide that first round 2 GHz MSS licensees that satisfy all requisite developmental milestones will, upon being granted full system licenses, also be assured of ultimately receiving a minimum amount of 2 GHz spectrum (e.g., 2.5 MHz) through their participation in the intersystem coordination process at such time as they commence actual service. In order to implement this goal, it has been suggested that the Commission could require, should coordination negotiations not result in an agreement within 120 days after they commence, that a newly entering MSS licensee participating in such negotiations will be entitled -- with certain limitations as set forth in a proposed draft rule § 25.xxx, attached hereto as part of Exhibit A[24] -- to use on an interim basis up to a total of 2.5 MHz or a specified portion of the spectrum then currently cleared and available for MSS, whichever is larger. All interim spectrum use by new MSS entrants would be subject to dispute resolution as discussed below.[25]

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[24] The draft rules attached hereto as Exhibit A represent a first effort to give effect to the recognized need of later 2 GHz MSS entrants for access to 2 GHz MSS spectrum on an equitable basis. All comments and suggestions on how the draft rules might be improved are welcome.

[25] Were the Commission to establish such a default coordination mechanism, it would need to provide that any additional spectrum that a newly entering MSS licensee might require as part of its guaranteed minimum amount would be made available through the relocation of additional 2 GHz incumbent licensees. Similarly, should more than one later entrant claim rights to its guaranteed minimum amount of spectrum, additional spectrum would probably have to be cleared through such

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It has also been suggested that the Commission may wish to take steps to ensure that later first round entrants to the 2 GHz MSS bands are not placed at a disadvantage by being relegated to bands that may be more expensive to clear of 2 GHz incumbent licensee operations than were the bands cleared by earlier MSS entrants. To this end, one suggestion has been for the Commission to employ a cost equalization mechanism that averages relocation costs per MHz of spectrum on a rolling, going-forward basis (separately for 2 GHz MSS uplink and downlink bands). As the IUSG understands this mechanism, it would require that each 2 GHz MSS market entrant pay relocation costs in accordance with its proportional use of spectrum as multiplied by that average relocation cost per MHz. (A draft rule § 25.zzz to this effect is attached hereto as part of Exhibit A).[26]

The combination of these built-in protections, if they are implemented, should provide any later entering first round MSS operator with sufficient assurance that it can bring its system into service without delay. Further, in order to minimize disputes among MSS operators regarding relocation costs, the IUSG recommends that the Commission require that each MSS licensee that

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[25](...continued)
relocations.

[26] Assume, for example, System A clears 6 MHz in the year 2000 at a cost of $1 million per MHz, and System B enters the market in the year 2004 and clears an additional four MHz of spectrum at a cost of $2 million per MHz. Assume, also, that System A uses seven MHz of spectrum for its operations, and that System B uses three MHz. The average cost of relocation per MHz for the spectrum in question is $1.4 million. In order to equalize the costs incurred by each system, System A should be required to pay $ 9.8 million and System B should be required to pay $4.2 million. The Commission could establish a "true-up" procedure to ensure that all MSS operators are reimbursed as necessary.

incurs relocation costs be required to file on a confidential basis all relevant information regarding its expenditures with the Commission (or with a designated information clearinghouse) within an established period of time after costs are incurred or after the MSS licensee enters into a voluntary relocation agreement with 2 GHz incumbent licensees.[27] To the same end, the Commission should be available to guarantee that all domestic intersystem coordination is conducted in good faith, to resolve any coordination disputes that may arise, and, if the Commission implements the coordination default mechanism described above, to ensure that all MSS licensees that meet all of the Commission's developmental milestones receive at least the minimum amount of spectrum to which they are entitled. (A draft rule 25.yyy, attached hereto as part of Exhibit A, would accomplish this objective.) The IUSG suggests that the good faith factors that the Commission should consider in overseeing negotiations between earlier and later 2 GHz MSS market entrants should be comparable to those it will consider in the context of relocation negotiations between MSS operators and 2 GHz incumbent licensees.[28]

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[27] At such time as a 2 GHz MSS conditional licensee satisfies the relevant Commission milestones and becomes eligible to coordinate with prior entrants, it should become entitled to view such information under the Commission's standard protective order.

[28] In this regard, see Comments of the ICO USA Service Group (ET Docket No. 95-18) (filed Feb. 3, 1999) ("IUSG Relocation Comments") at 38-39; Reply Comments of the ICO USA Service Group (ET Docket No. 95-18) (filed March 5, 1999) ("IUSG Relocation Reply Comments") at 47-48; Petition for Expedited Reconsideration (ET Docket No. 95-18, RM-7927, PP-28) (filed Dec. 23, 1998) at 15-17.

F. Orderly Relocation of 2 GHz Incumbent Licensees

The INEA contemplates that the Commission will provide for the relocation of 2 GHz incumbent licensees in accordance with the relocation plan that the IUSG advocated in the Commission's proceeding addressing 2 GHz relocation matters.[29] In that proceeding, the IUSG urged, inter alia, that the Commission:

- Reallocate the 85 MHz of spectrum for the Broadcast Auxiliary Service, the Cable Television Relay Service and the Local Television Transmission Service (together, the "BAS") at 2025-2110 MHz, requiring BAS analog or digital equipment to operate in more narrow channels within the 2025-2110 MHz band;[30]

- provide that, to the extent the Commission chooses to apply to 2 GHz incumbent licensees the general relocation and cost recovery policies established in the Commission's Emerging Technologies[31] and Microwave Relocation/Cost Sharing[32] proceedings, it will modify those policies to:

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29 See generally IUSG Relocation Comments; IUSG Relocation Reply Comments.

30 See IUSG Relocation Comments at 11-12, 40-41.

31 Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, First Report and Order and Third Notice of Proposed Rule Making, 7 FCC Rcd 6886 (1992) ("Emerging Technologies First R&O and Third NPRM"); Second Report and Order, 8 FCC Rcd 6495 (1993); Third Report and Order and Memorandum Opinion and Order, 8 FCC Rcd 6589 (1993) ("Emerging Technologies Third R&O and MO&O"); Memorandum Opinion and Order, 9 FCC Rcd 1943 (1994); Second Memorandum Opinion and Order, 9 FCC Rcd 7797 (1994), aff'd, Ass'n of Public Safety Communications Officials-International, Inc. v. FCC, 76 F.3d 395 (D.C. Cir. 1996) (together, "Emerging Technologies").

32 Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, First Report and Order and Further Notice of Proposed Rule Making, 11 FCC Rcd 8825 (1996) ("Microwave Relocation/Cost-Sharing First R&O and FNPRM"); Second Report and Order, 12 FCC Rcd 2705 (1997) (together, "Microwave Relocation/Cost-Sharing").

- mandate relocation and its attendant expenditures only where harmful interference cannot be avoided;
- provide that such relocation can be accomplished without wholesale removal of incumbent licensees from the existing frequency bands; and
- provide that the least expensive means of relocation will suffice;[33]

- adopt a gradual, channel-by-channel transition plan for 2 GHz incumbent licensees which progressively makes available limited 2 GHz spectrum for MSS as it is needed, and relocates BAS and Fixed Service ("FS") licensees only when absolutely necessary to avoid harmful interference;[34]
- condition the license of any BAS applicant authorized after the release of the March 14, 1997 FNPRM[35] in the Commission's 2 GHz relocation proceeding on relocation by the licensee at its own expense, and immediately impose a freeze on all applications for new BAS and FS licenses and modifications of existing licenses in the affected frequency bands, effective on the date of the Commission's Memorandum Opinion and Order[36] in the 2 GHz relocation proceeding;[37]
- permit MSS licensees to negotiate individually or collectively with 2 GHz incumbent licensees as appropriate, where spectrum sharing between MSS

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33 See IUSG Relocation Comments at 14-23, 30-35.

34 See id. at 23-26.

35 Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, First Report & Order and Further Notice of Proposed Rule Making, 12 FCC Rcd 7388 (1997) ("First R&O" or "FNPRM," as appropriate).

36 Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, Memorandum Opinion & Order and Third Notice of Proposed Rule Making and Order, ET Docket No. 95-18 (FCC 98-309) (released November 25, 1998) ("MO&O" or "Third NPRM," as appropriate).

37 See IUSG Relocation Comments at 27-30, 41-42.

operators and incumbent BAS or FS licensees proves unworkable;[38] and

- require that all licensed MSS operators using the same spectrum be required to share equitably all of the costs incurred by any MSS licensee(s) to relocate incumbent users from that spectrum.[39]

The foregoing relocation plan is specifically designed to facilitate the orderly transition of incumbent 2 GHz licensees to new spectrum while minimizing the cost of relocation to MSS licensees and the disruption of such a change to existing incumbent licensee operations. As such, the INEA resolves thorny problems that call all other known licensing proposals into question.

As the IUSG observed in its 2 GHz Relocation Reply Comments, one major difficulty inherent in the relocation of 2 GHz incumbents is the fact that most 2 GHz MSS applicants will not be able to afford to relocate significant numbers of incumbents until their systems are at or near operational status.[40] For this reason, it would not be possible for 2 GHz MSS licensees to fund a near-term, wholesale relocation of incumbent licensees from the 2 GHz MSS bands.

Even if such were not the case, however, it would be incumbent on the Commission to take all measures to minimize the burden of relocation cost payments on 2 GHz MSS operators so as to ensure that U.S. consumers are able to obtain MSS service at an affordable price. The large numbers of incumbent licensees requiring relocation nationwide and the likelihood that all relocation expenditures will be passed on to consumers make such efforts all the more important. In addition, the Commission must keep in mind that any burdensome relocation obligations that it

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38 See id. at 35-36.

39 See id. at 45-64.

40 See IUSG Relocation Reply Comments, Appendix A at 24 n.8.

places on MSS operators may be replicated in those countries that look to the United States as a economic role model -- thus raising the cost of providing global MSS to the point where it simply becomes untenable. Clearly, such an outcome would serve neither the interests of U.S. consumers nor those of the U.S. economy as a whole.

The INEA avoids these problems by capitalizing on MSS operators' natural economic incentive to commence service in the least congested 2 GHz MSS spectrum available. By so doing, early entrant MSS operators will not only minimize the relocation costs they must pay; they will also minimize disruption to incumbent licensee operations, thereby permitting most primary incumbents to continue to provide service as they have been for years to come. As subsequent 2 GHz MSS market entrants satisfy the Commission's developmental milestones, they will attain the right to engage in relocation negotiations with 2 GHz incumbent licensees and, as necessary, to clear additional 2 GHz spectrum for MSS use. Relocation cost burdens will be shared equitably among 2 GHz MSS market entrants to ensure that no party gains a competitive advantage through the relocation process, and to ensure that sufficient funds are available to pay for such relocations as are required. In short, by requiring the clearing of only so much spectrum as MSS operators need to use at any given time, the INEA serves the interests of 2 GHz incumbent licensees and MSS system operators alike.

III. The INEA Offers Ready Answers to the Questions and Concerns Raised by the Commission in the NPRM With Regard to its Negotiated Entry Approach.

In the NPRM, the Commission expresses a number of concerns regarding the merits of its Negotiated Entry Approach vis-a-vis the other 2 GHz MSS licensing plans that it describes, and

raises certain questions as to how the Negotiated Entry Approach could be implemented. To the extent that the description of the INEA set forth above does not respond specifically to each of these concerns and questions, the IUSG does so below.

A. The INEA and the Commission's Existing Rules Give the Commission Ample Means to Ensure Good Faith Coordination Among All 2 GHz MSS Entrants.

As noted above, the Commission voices concern that early 2 GHz MSS market entrants may have the ability to exercise a strategic advantage over their competitors in the use of 2 GHz spectrum, and that such an advantage may give such early entrants a disincentive to bargain in good faith with subsequent entrants for such spectrum. The IUSG has already described the INEA's numerous safeguards for ensuring that earlier entrants will have no strategic advantage over their competitors, save the advantage that they have earned by achieving operational status more swiftly than other contenders. In addition, a possible mechanism for coordination dispute resolution is attached hereto as a draft rule 25.yyy (see Exhibit A).

Should any early 2 GHz MSS entrant make the mistake, however, of acting in bad faith in negotiations with subsequent entrants, the IUSG notes that the Commission has ample enforcement mechanisms with which to bring such activity to a prompt halt.[41] The IUSG believes

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[41] See, e.g., Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, __ FCC Rcd 19112, 19148 (¶ 68) (1998) (". . .[I]f there is evidence that a certification was made in bad faith, we delegate to the Mass Media Bureau the authority to impose a monetary forfeiture or it may refer the matter to the Commission for designation for hearing."); Commercial Realty St. Pete, Inc., James C. Hartley, Teresa Hartley, and Ralph E. Howe, __ FCC Rcd 4313, 4316 (1995) ("'if [an auction] default or disqualification involves gross

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that such improper conduct on the part of early entrants is highly unlikely in any event, as the Commission has already expressed its willingness to facilitate the resolution of coordination disputes.[42]

B. The Commission Should Not Initiate a Second Processing Round for MSS Systems in the 2 GHz Bands Until All Current Applicants Have Met or Failed to Meet Their Developmental Milestones.

The Commission seeks comment in the NPRM on whether it should make available in a second processing round any 2 GHz spectrum that is unused as a result of the failure of a system proponent to meet its system milestones.[43] In addition, the Commission asks whether the pool of eligible entities in any second processing round should be limited to those entities that have implemented or are still in the process of implementing satellite systems, or whether it should include future applicants as well.[44] The IUSG urges the Commission not to initiate a second processing round for 2 GHz MSS spectrum until such time as it has (1) determined with finality whether or not each first round system licensee has met its developmental milestones, and (2) made a determination of system needs.

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[41](...continued)
misconduct, misrepresentation or bad faith by an applicant, the Commission may also declare the applicant and its principals ineligible to bid in future auctions, and may take other action that it may deem necessary, including institution of proceedings to revoke any existing licenses held by the applicant.'") (quoting Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 9 FCC Rcd 2348, 2383 (1994)).

[42] See NPRM, FCC 99-50, slip op. at 20 (¶ 43).

[43] See id. at 20 (¶ 42).

[44] See id. at 16 (¶ 29).

The IUSG submits that, to a great extent, the second 2 GHz MSS processing round suggested by the Commission is rendered unnecessary by the INEA. Because the INEA would involve the licensing of all 2 GHz MSS licensees across the bands in which their systems can properly operate, and because each new 2 GHz MSS entrant from the Commission's first processing round will be accommodated in the 2 GHz bands only after it meets the Commission's milestone requirements, there will be no need to re-assign spectrum abandoned by unsuccessful systems to other first-round systems. Rather, such spectrum as has been cleared of 2 GHz incumbent licensees for use by fully licensed MSS systems will already be in use by such systems, and any spectrum that has not yet been cleared will continue to be used by terrestrial systems until it is needed by operational first-round MSS systems.

The IUSG agrees that, in theory, any unneeded 2 GHz MSS spectrum should be made available for use by any successful second-round satellite system applicants. The Commission cannot know, however, whether any 2 GHz MSS spectrum will go "unused" until all first-round 2 GHz MSS conditional licensees have either succeeded or failed to meet their developmental milestones. Were the Commission to re-assign 2 GHz MSS spectrum to second-round applicants before it knew with certainty how many first round systems will operate in the 2 GHz bands or those systems' capacity (i.e., spectrum) requirements, it would jeopardize the viability of operational first-round systems for the sake of still hypothetical second-round systems. Such a tradeoff clearly would not serve the public interest in additional MSS service.

On this same matter, the IUSG notes that, as all 2 GHz MSS systems that satisfy milestone requirements will be licensed to operate across the applicable 2 GHz MSS bands, early

entrants that are enjoying market success may have expanded their operations beyond the bands in which they commence service by the time later entrants have either succeeded or failed to meet their own construction milestones. The Commission should in no way restrict the ability of first round 2 GHz MSS systems to respond to market demands in this manner by prematurely re-assigning 2 GHz MSS spectrum for use by second-round applicants.[45]

C. The Commission Should Not Segment the 2 GHz MSS Bands According to Anticipated Use by Systems with Particular Modulation Schemes.

The IUSG urges the Commission not to divide the 2 GHz MSS bands for purposes of accommodating satellite systems planning to use Time Division Multiple Access ("TDMA") and those planning to employ Code Division Multiple Access ("CDMA") modulation schemes. Such division of the available bands would neither facilitate useful coordination negotiations nor serve the public interest in competitive 2 GHz MSS services.

The IUSG asks the Commission to consider that the division of the 2 GHz MSS bands according to the anticipated use of modulation schemes by satellite operators would force many operators to commit to particular system technologies years in advance of the time that they hope to be ready to make use of them.[46] Because the pace of technological development in the satellite

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[45] In the event that the Commission requires 2 GHz MSS systems to clear some or all of the 2 GHz MSS bands wholesale and then finds that some of the MSS systems assigned to those bands have not met their developmental milestones -- such that excess spectrum capacity exists -- the Commission should require any second-round systems that use the unoccupied bands to reimburse in full, on a proportional basis, first-round systems for their expenses in clearing the bands.

[46] For the Commission to determine the amount of spectrum to be apportioned (continued...)

field is so rapid, it is not only possible but highly likely that technologies that are in use today will be outmoded several years from now. Even if available modulation schemes are the same several years from now as they are today, satellite system proponents whose systems are currently in the early stages of development may find the need to modify their system designs in the coming years so as to adopt a different, currently available, modulation scheme.[47] Any decision to divide the 2 GHz MSS bands now according to currently available modulation techniques will force MSS system operators to commit prematurely to technologies that may prove inappropriate for their systems in the long run. Should this outcome pertain, any effort by system operators to adopt more satisfactory modulation schemes at some point in the future would require the use of different frequencies from those preassigned by the Commission, and would therefore in all likelihood render all previous domestic and international coordination efforts useless. The same result would apply where systems that the Commission had incorporated into its 2 GHz MSS band plan were not ultimately implemented.

The Commission must also recognize that, well before it could conclude this proceeding by employing a band plan that divides the 2 GHz MSS spectrum into CDMA and TDMA technologies, it would have to require all 2 GHz MSS applicants to elect which of those two

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[46](...continued)
between access methods, it will need to know the number of systems proposing to employ each particular method. This a priori requirement will compel applicants to make their decisions as to which method to employ now.

[47] Naturally, any such requests by satellite system proponents for authority to implement major modifications to their satellite systems should be subject to the customary FCC scrutiny and procedures for approval.

modulation schemes to use so that it could determine how to divide the available bands. The IUSG submits that most applicants simply cannot make that choice with any reasonable degree of commitment at this time.

By employing the INEA, the Commission will avoid these difficulties. Because the INEA involves no a priori band plan, 2 GHz MSS market entrants are free to provide service in their bands of choice using the modulation schemes they wish to employ, consistent with coordination with other eligible licensed systems. Moreover, an MSS operator need not make a final commitment to a particular modulation scheme until such time as it is almost ready to provide service. The INEA's approach is fully spectrum-efficient, in that it still permits CDMA applicants that wish to share spectrum to do so in any bands in which such system operators choose to establish operations.

D. The Commission Should Divide the 2 GHz MSS Band into Frequencies Designated for NGSO and GSO System Use.

While the IUSG believes that the division of the 2 GHz MSS bands into CDMA and TDMA spectrum would be counter-productive, it urges the Commission to divide the 2 GHz MSS bands into frequencies designated for use by NGSO and GSO MSS satellite systems. As the Commission observes and as discussed above, the operations of GSO systems are inherently regional[48] and therefore should properly be restricted to portions of the 2 GHz MSS bands designated for regional service.

Furthermore, the Commission should not assume that GSO systems will necessarily

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[48] See NPRM, FCC 99-50, slip op. at 15 (¶ 28).

require the full 15 MHz of spectrum available to Region 2 satellite systems in the 2010-2025 MHz band (uplink) or a full 15 MHz of regional downlink spectrum. The IUSG recommends that allotments of spectrum for GSO use be based on reasonable expectations as to the number of systems that will operate in the subject bands. In keeping with this principle, and given the possibility that many 2 GHz MSS system applicants will never launch satellite systems, the IUSG urges that GSO system operators be allotted no more than 10 MHz in each direction. The IUSG suggests that the 2015-2025 MHz uplink band and the 2165-2175 MHz downlink band be designated for that purpose.

E. The INEA Affords the Best Means of Meeting the Challenges Posed by International Coordination of 2 GHz MSS Systems.

In the NPRM, the Commission seeks comment on whether it will be able to coordinate 2 GHz MSS U.S. satellite systems internationally before it can determine precisely on which frequencies each planned system will operate domestically.[49] While the IUSG believes that international coordination of 2 GHz MSS systems will prove challenging under any licensing plan that has been suggested for the service to date, it believes that the INEA offers the best hope for an orderly international coordination process and a satisfactory outcome of that process.

As indicated above, frequencies will not be assigned under the INEA for particular 2 GHz MSS satellite systems until such systems have met their developmental milestones and satisfied certain other criteria. Once satellite systems have reached that stage, they will be within one year of their respective launch dates, and their respective system parameters will be established and

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[49] See id. at 20 (¶ 43).

unlikely to change. At that point, under the INEA, the Commission will proceed to complete coordination of a given 2 GHz MSS system internationally. Thus, the INEA will enable the Commission to engage in international coordination for each 2 GHz MSS systems armed with the actual frequencies in which that system will operate domestically, rather than purely hypothetical spectrum assignments devised as part of an a priori band plan.[50]

The merits of the INEA in this regard are obvious. Because the desired frequencies of a 2 GHz system one year from launch are unlikely to change, the Commission can have greater confidence that, in coordinating such a system internationally, it will be making worthwhile use of its time and resources. In addition, the Commission can request coordination with foreign governments with assurance that it is not demanding the frivolous expenditure of the time and resources of its negotiating partners for the sake of a system that will only have to be coordinated again several months or years hence when the system's parameters change. While it is admittedly possible that later entrants to the 2 GHz MSS band may force a change in the spectrum assignments of one or more earlier entrants under the INEA, the IUSG submits that the other, more rigid licensing schemes that the Commission is considering in this proceeding would be vulnerable to far more dramatic modifications if, as is quite likely, several satellite system

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[50] The IUSG notes that the Commission has already advance published each of the applications of the various U.S. 2 GHz MSS applicants for operation across the entire 2 GHz MSS bands, and has begun to coordinate the proposed systems of those applicants before the ITU. Thus, the international community is already on notice that multiple system operators intend to provide service within the 2 GHz MSS bands. The IUSG also notes that the United Kingdom has advanced published ICO's system application and begun to coordinate ICO's proposed system before the ITU.

operators fail to meet their developmental milestones or seek to modify their system parameters well after conditional authorization in order to specify operation in different bands.

The INEA also resolves the Commission's expressed concerns as to its ability to achieve, through any U.S. band approach, compatibility with the spectrum planning and satellite system licensing processes that already have occurred in other countries.[51] To date, most other countries have yet to establish firm band plans for the provision of 2 GHz MSS. Until actual 2 GHz MSS systems are poised to enter the marketplace and make use of band assignments, the IUSG predicts that the Commission will have difficulty in convincing many foreign governments and regulatory bodies to establish band plans compatible with either of the a priori band plans proposed in the instant proceeding. Presented, however, with actual 2 GHz MSS systems that have met the Commission's developmental milestones and have established the bands in which they wish to operate in accordance with the INEA, the IUSG submits that the international community will be far more willing to set aside spectrum for 2 GHz MSS operations.

In sum, the IUSG believes that the INEA presents the Commission's best means of coordinating 2 GHz MSS operations abroad. Instead of focusing on the potential difficulties that are inevitable in international coordination, the IUSG urges the Commission to choose the most effective 2 GHz MSS licensing plan and incumbent licensee relocation scheme available, and to address the complexities of international coordination as they arise.[52]

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[51] See NPRM, FCC 99-50, slip op. at 49-50 (¶ 111).

[52] The Commission asks in the NPRM whether designations of spectrum for non-
(continued...)

F. The INEA Permits Ample Confidence in the Viability of 2 GHz MSS Licenses to Encourage Investment in 2 GHz MSS Systems.

The Commission asks whether "the potential for a protracted coordination process among the licensees" under its Negotiated Entry Approach might significantly deter investment in 2 GHz MSS systems.[53] The IUSG believes strongly that a Negotiated Entry Approach such as the INEA will permit, and indeed, engender, ample confidence in the viability of 2 GHz MSS licenses to encourage investment in 2 GHz MSS systems notwithstanding the requirements of the domestic intersystem and international coordination processes.[54]

As discussed above, the INEA incorporates numerous safeguards to ensure that system licensees will negotiate in good faith with one another and that all systems that satisfy Commission milestones and other relevant criteria will receive sufficient spectrum in which to operate. The IUSG has also demonstrated that the INEA offers the most simple and efficient means available of coordinating 2 GHz MSS systems internationally. Thus, the INEA provides

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[52](...continued)
U.S. licensed systems should be conditioned in some manner on successful coordination internationally. See id. at 49 (¶ 110). The IUSG submits that any such conditions are unnecessary, as all licenses are subject to international coordination in any event. In keeping, however, with its policies adopted in its proceeding in Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States (IB Docket No. 96-111), the Commission must ensure that non-U.S. licensed systems are not disadvantaged in any way vis-a-vis U.S. systems by any rules or policies that it adopts with regard to MSS in general, and to 2 GHz MSS in particular.

[53] See NPRM, FCC 99-50, slip op. at 20 (¶ 43).

[54] See id.

investors with all the assurance they could reasonably require that any 2 GHz MSS system that satisfies the Commission's milestones will obtain access to sufficient spectrum to by worthy of consideration as an investment.[55]

IV. The INEA Better Addresses the Other Issues Raised in the NPRM Than Do the Other Licensing Methods That the Commission is Considering.

A. Both the Commission's Flexible Band Arrangement and its Traditional Band Arrangement Would Present Significant Problems That the INEA Permits the Commission to Avoid.

The Commission describes in the NPRM two alternatives to its Negotiated Entry Approach that would involve the a priori assignment of spectrum for use by 2 GHz MSS satellite systems. The first, the Commission's Flexible Band Arrangement,[56] would require the early allotment of portions of the 2 GHz MSS bands to systems employing particular modulation schemes based on the system proposals in the pending 2 GHz MSS applications -- despite the fact that those proposals will surely change. The second, the Commission's Traditional Band Arrangement,[57] would require the early assignment of frequencies to individual 2 GHz MSS

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[55] In this regard, the Commission received letters in March 1999 from two financial institutions prominent in the financing of satellites -- ING Baring Furman Selz LLC and Donaldson, Lufkin & Jenrette Securities Corporation -- regarding the level of certainty that investment banks generally require regarding a satellite operator's licensing status before they will be willing to provide the operator with financing (see copies attached hereto as Exhibit B). Both institutions made clear in their letters that a system operator does not require government assurances that it will have access to specific spectrum frequencies as a precondition of financing or assistance in obtaining financing.

[56] See NPRM, FCC 99-50, slip op. at 16-19 (¶¶ 31-39).

[57] See id. at 21 (¶¶ 44-45).

satellite system proponents well in advance of any assurance that such systems will ever be established as proposed, if at all. The IUSG submits that, unlike the INEA, these alternatives create more problems than they resolve.

As discussed earlier, the designation of spectrum assignments according to system technology and modulation schemes based on the current 2 GHz MSS system proposals is likely to be counterproductive. Instead of facilitating the prompt establishment of a competitive 2 GHz MSS, the Commission's Flexible Band Arrangement would, as the Commission itself suggests, limit the ability of system operators to embrace new technologies (e.g., CDMA vs. TDMA) that may become available long after their systems are conditionally licensed.[58] By forcing licensees to commit prematurely to technologies that may prove inappropriate for their systems, the Commission would ensure that system operators either must provide unsatisfactory service by outmoded means, or that they would be obligated to expend funds unnecessarily at a later date in order to modify their systems.[59] Should the latter, more likely result pertain, the Commission would be forced to re-work its carefully designed band plan and to re-coordinate the plan internationally, to the detriment of all early 2 GHz MSS entrants and their customers, and at the expense of the Commission's own time and resources and those of foreign governments with

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[58] See id. at 19 (¶ 39).

[59] Should the Commission choose to adopt its Flexible Band Arrangement after all, however, the IUSG would support the specific assignment proposal set forth in the NPRM. See id. at 18-19 (¶ 37).

which it would need to negotiate.[60]

Not surprisingly, the same outcome would be guaranteed by a licensing scheme that assigns particular frequencies to individual satellite systems based on pending 2 GHz MSS applications. Indeed, the Commission's Traditional Band Arrangement is far more rigid than its Flexible Band Arrangement, apparently permitting system operators to use only that spectrum that has been assigned to them from the start and making no allowances for changes in spectrum requirements over the long term.[61] Given that most 2 GHz MSS system operators do not plan to commence service for several years, the implementation of the Traditional Band Arrangement would ensure that most of the 2 GHz MSS band would go entirely unused by MSS licensees until such time as the Commission can determine with certainty whether the various late entrants to the 2 GHz MSS marketplace will in fact establish operational systems or not. With respect to those systems that are ultimately established, the Commission would be forced to contend with the inevitable changes in system technologies and adjustments to operating frequencies described above between the time that systems are licensed and the time that they reach operational status,

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60 2 GHz MSS applicants cannot spare themselves or the Commission these difficulties by filing separate applications in the alternative for particular technologies or the use of particular frequencies. In the first place, the Commission cannot devise a useful band plan that can be coordinated internationally based on alternatives. In the second, applicants cannot know what new technologies may become available in the future that will be preferable to those currently in use. In any case, the Commission's rules do not permit the filing of separate applications in the alternative. See 47 C.F.R. § 1.747.

61 See NPRM, FCC 99-50, slip op. at 21 (¶ 45).

and would undoubtedly be required to re-design and re-coordinate its band plan accordingly.[62]

It is important to note that, given that there is no reason to think that the various 2 GHz MSS satellite systems will commence service at the same time, the Commission may need to re-design and re-coordinate its 2 GHz MSS band plan multiple times under either the Flexible Band Arrangement or the Traditional Band Arrangement. In contrast, the INEA's more fluid and gradual approach to 2 GHz MSS spectrum assignment will eliminate the need for any spectrum-specific band plan. As noted above, some adjustments may be required as new systems meet Commission milestones and begin to coordinate with earlier market entrants. Such changes will only be needed, however -- if they are needed at all -- to accommodate the systems that are likely to reach an advanced stage of development.

The fundamental flaw in the Commission's Flexible Band and Traditional Band Arrangements is that both plans would put the Commission in the position of choosing in advance the bands in which applicants are to operate, rather than allowing system proponents to make their own decisions based on market realities at the time the applicants wish to commence service. For all its good efforts, the Commission cannot possible know years ahead of time the many

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[62] On this point, the IUSG urges the Commission not to grant MSS system operators any rights at this time to specific parts of the 2 GHz MSS bands. To entertain assertions of such rights at this time would be to restrict the present and future technological options of other applicants well in advance of the time when the implications of their choices are clear. The IUSG notes, in particular, that whether or not an MSS operator asserting a claim to particular bands can share with terrestrial incumbents should not be relevant to the Commission's consideration of its request; unless the operator can share the same spectrum with all other MSS operators as well, its choice of bands will necessarily limit the choices of all other MSS applicants.

factors that may cause applicants to select the bands which would suit their systems best. The Commission would do better to cede the resolution of such issues to the marketplace by allowing applicants to decide them amongst themselves in accordance with the Commission's good faith negotiation requirements.

In addition to the aforementioned difficulties inherent in the Flexible Band Arrangement and the Traditional Band Arrangement, both licensing plans would make the orderly and affordable relocation of 2 GHz incumbent licensees impossible. In this regard, the IUSG notes that the Commission offers no indication whatsoever in the NPRM as to how it intends that incumbent licensees be relocated for purposes of either licensing plan -- though it indicates its awareness of the flexibility that its Negotiated Entry Approach would afford.[63]

If the Commission is contemplating the wholesale removal of incumbent 2 GHz MSS licensees from the 2 GHz bands for purposes of implementing one of its 2 GHz a priori band plans, it must recognize that such process would be entirely unfeasible. Most 2 GHz MSS operators simply cannot afford the cost of relocating 2 GHz incumbent licensees at this time, and will not be able to expend any funds towards that effort for years. To rely on early 2 GHz MSS entrants to pay for the relocation of all incumbent licensees would not only be grossly unjust, but would act as a powerful deterrent to early market entry. Even if such wholesale relocation were possible, it would subject incumbent licensees to great and unnecessary disruptions in their business activities years before most proposed 2 GHz MSS systems hope to commence service.

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[63] See NPRM, FCC 99-50, slip op. at 20 (¶ 41).

The IUSG believes that any attempt to relocate incumbent licensees gradually from the 2 GHz MSS bands so as to implement the Commission's Flexible Band Arrangement or Traditional Band Arrangement would be equally problematic. Under the INEA, costs for relocation of incumbents are not incurred until 2 GHz MSS systems meet the specified intersystem coordination milestone (i.e., one year prior to launch of the first satellite in the constellation) and are ready to enter the market. At that time, the new entrant identifies the spectrum best suited to its system with the understanding that relocation costs will accompany that decision. As a consequence, the new entrant takes relocation into account in its decision where to commence operations — the basic concept is that the 2 GHz MSS operator is in the best position to determine its precise spectrum needs (and the cost implications of those needs) not the Commission.

Under any a priori band plan (whether it is the traditional 1/n or the flexible core plan offered by the FCC), however, the MSS entrant does not have that choice. In fact, it is bound by the predesignation of spectrum assigned by the FCC premised on conjecture as to which systems will operate TDMA or CDMA, which will operate NGSO or GSO, and which will, in fact, materialize at all. This will inure to the advantage of some applicants and to the disadvantage of others, depending upon the particular location of the applicants' spectrum assignment.[64] Since

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[64] Certainly, an MSS applicant given a pre-assigned spectrum block right in the middle of BAS Channel 2 (e.g., between 2009-2013 MHz) will have to clear all of Channel 2, whereas an applicant given 3.75 MHz at the bottom of BAS Channel 1 may be able to clear a few MHz to begin operation, at a considerable savings in cost.

neither the Commission nor any applicant presently knows whether there is particular uplink or downlink spectrum that may be easier and/or less costly to clear, the pre-assignment of spectrum blocks will inevitably and inappropriately favor some applicants over others without any rational basis for doing so.

For example, as noted in footnote 64, supra, the MSS applicant assigned to a spectrum block in the middle of BAS Channel 2 will have to clear more spectrum than it will require just because of its location in the band. This will increase the costs to this applicant for the benefit of others. And even though later entrants would be required to reimburse this operator, it will nevertheless be required to carry those excess costs for an indefinite period, an additional burden that it should not have to bear. In such circumstances, the IUSG would urge that the Commission require all conditional licensees to contribute to a "relocation pool" at the time of licensing in order to assure that no one licensee is subjected to unnecessary costs merely because of its pre-assigned location in the uplink or downlink band.

Another disadvantage of the a priori core band plan suggested by the Commission — aside from the basic inequity of assigning what could be "better" spectrum to some to the disadvantage of others — is that one or more conditional licensees (because of their own perceived desire to finalize their system design) may insist on negotiating their place in the core at the outset, irrespective of which conditional licensees meet their construction milestones. This undertaking will constrain the operation of some conditional MSS licensees as intersystem coordination yields agreement to operate in certain defined segments of the assigned core subband, rather than yielding the flexibility to operate anywhere in the band that INEA offers. The former leads to

spectrum warehousing as spectrum is reserved for what may turn out to be "paper" systems, while the latter leads to optimum spectrum usage as systems enter the market.[65]

B. The Use of Spectrum Auctions for Purposes of Licensing 2 GHz MSS Systems Would be an Unmitigated Disaster.

The IUSG cannot stress strongly enough its opposition to the establishment, under any circumstances, of spectrum auctions for the licensing of 2 GHz MSS systems. The use of spectrum auctions in the instant proceeding would have disastrous consequences not only for the 2 GHz MSS, but for the future of global satellite services in general.

At the outset, the IUSG notes that the Commission cannot lawfully require the use of

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[65] Celsat, in particular, would benefit greatly from the INEA in that the FCC's flexible core band plan will require Celsat to enter into intersystem coordination with all other CDMA systems (both NGSO and GSO) in the 2001.25-2013.75 MHz and 2176.25-2188.75 MHz bands preassigned to "CDMA." This will both complicate Celsat's ability to obtain financing (since investment sources may want to wait for resolution of this process before committing funds) and constrain its system planning and operation unnecessarily in order to accommodate other licensees that may never materialize. Under the INEA, on the other hand, Celsat is guaranteed at least a minimum amount of spectrum, with guaranteed access when it is ready, to the portion of the band it finds most attractive for its system at the time — without the Commission having attempted to predetermine this based on assumptions that may or may not be valid. In any case, a licensee such as Celsat — which represents that it can share with incumbents in both the uplink and downlink bands — should have no problem with the INEA in any circumstances. Being able, as it claims, to operate anywhere in either band without the need to relocate incumbents, Celsat — as an example — has the greatest flexibility of any applicant and it would be free to plan and deploy its system irrespective of other CDMA systems that do not satisfy the various milestones established by the Commission.

spectrum auctions in the absence of mutual exclusivity among system applications.[66] The Commission has already tentatively concluded that there is sufficient spectrum in the 2 GHz MSS allocation to accommodate reasonably all nine 2 GHz MSS system proposals.[67] To the IUSG's knowledge, no applicant has indicated to the Commission that it believes the amount of spectrum allocated to 2 GHz MSS to be insufficient. Furthermore, it is highly unlikely that all proposed systems will reach operational status. Thus, even if the Commission could properly find theoretical mutual exclusivity among current 2 GHz MSS system applications -- and it cannot -- it could not reasonably find any plausible prospect of mutual exclusivity in fact.

Quite apart from the legal impropriety of employing spectrum auctions in the instant proceeding, the IUSG submits that to do so would be a terrible policy error. Most nations of the world look to the United States as a role model for telecommunications regulation, and would be likely to mimic any satellite spectrum auctions employed by the Commission. Consequently, any global satellite system operator that were able to obtain the spectrum it needs to serve the United States through the auction process would be faced with the prospect of entering similar auctions the world over. The astronomical cost of assembling in this manner sufficient spectrum to serve the entire globe would surely bankrupt even the most solvent of ventures -- and there would be no assurance that a given satellite operator would prevail in all auctions that it entered, in any event.[68]

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66 See 47 U.S.C. § 309(j)(1).

67 See NPRM, FCC 99-50, slip op. at 15 (¶ 26).

68 As noted in a recently released FCC regulatory guidebook with respect to global satellite systems, "sequential auctions in countries . . . where operator[s] would (continued...)

As the Commission correctly notes, the use of auctions might also have the unintended effect of preventing 2 GHz MSS market entry by transnational satellite systems.[69] Given the additional contingencies faced by transnational systems as they seek market access in all nations of the world, regional and purely domestic satellite systems may well outbid transnational systems for available 2 GHz MSS spectrum. The IUSG notes that, in spite of the popular view of auctions as economically efficient, such an outcome would prevent systems that offer greater long-run benefits to more customers from entering the marketplace in favor of systems that may be easier or less costly to establish but will offer more limited service to fewer nations and with relatively modest prospects for growth.

The ITU-based international auction of 2 GHz MSS spectrum described as an alternative by the Commission would not prevent most of the difficulties inherent in national auctions. In the first place, the cost to any given MSS operator of obtaining multinational authority to provide MSS through such an auction would undoubtedly be daunting. Furthermore, as the Commission suggests, such an international auction would raise a host of as-yet-unexplored policy issues and would inevitably take years to implement.[70] Consequently, the provision of 2 GHz MSS to the public would be significantly delayed, if not permanently blocked.

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[68](...continued)
like to provide service" could result in "uncertainty to the satellite operator as to the final costs of the system." "Connecting the Globe: A Regulator's Guide to Building a Global Information Community," at VII-8.

[69] See NPRM, FCC 99-50, slip op. at 8 (¶ 9).

[70] See id. at 8 (¶ 10 & n.34).

For all these reasons, the IUSG urges the Commission to eschew 2 GHz MSS spectrum auctions under all circumstances. In the unlikely event that the Commission finds that all MSS systems cannot be accommodated in the available 2 GHz spectrum, the IUSG would support the establishment of financial qualifications standards that the Commission employed for Big LEO licensees.[71] Under such circumstances, however, the Commission should modify those Big LEO standards to ensure that 2 GHz MSS applicants also have the financial wherewithal to afford the relocation of terrestrial incumbent licensees. Such a modification would clearly be appropriate, as Big LEO licensees were not required to relocate incumbent licensees in order to obtain spectrum for their system operations. The IUSG notes that, in minimizing relocation costs for 2 GHz MSS licensees, the INEA will permit a more lenient financial entry standard as well.

V. The Commission Should Establish All other Service Rules in this Proceeding so as to Facilitate the Rapid Introduction of 2 GHz MSS in Accordance with the INEA.

A. The Commission Should Use the Big LEO Rules as a Template for its 2 GHz MSS Service Rules.

As indicated above, the IUSG generally supports the Commission's proposal to use the Big LEO rules as a template for service rules for the 2 GHz MSS.[72] The Commission is well aware that the Big LEO rules were crafted with the input of numerous MSS system applicants and other interested parties, and have thus far withstood the test of time. Given the close technical similarities between the 2 GHz MSS and the Big LEO MSS -- and given that satellite system

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71 See id. at 14 (¶ 25).

72 See id. at 9-10 (¶ 13).

operators in the two services will compete with one another, except where a single entity operates satellites in both services -- it is appropriate that the same or very similar service rules and qualification requirements apply to each. To the extent that the IUSG is aware at this time of any manner in which the 2 GHz MSS service rules should depart from the Big LEO rules, it has noted its recommendations herein.

B. The Commission Should Establish and Enforce Strict Developmental Milestones for the 2 GHz MSS.

Should the Commission decide not to implement financial qualification standards for 2 GHz MSS system proponents, as it has proposed,[73] the IUSG believes that its adoption and enforcement of strict developmental milestones for 2 GHz MSS systems will be essential.[74] Indeed, in the absence of financial qualification standards, milestones represent the Commission's only reliable means of preventing the warehousing of the precious spectrum/orbit resource.

As the Commission knows from past experience, the prevention of warehousing is vital so that truly viable satellite systems can make optimal use of the spectrum/orbit resource and to ensure the most rapid possible provision of new services to the user public. Developmental milestones provide the Commission with a ready means of checking on the progress of system proponents' construction efforts, and permit the revocation of a system license at the first sign of unjustifiable delay. Their use also sets an example that will discourage the authorization and coordination of paper satellite systems. For these reasons, the IUSG supports the Commission's

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73 See id. at 14 (¶¶ 23-25).

74 See id. at 39 (¶ 83).

proposal to employ developmental milestones regardless of the method that the Commission ultimately selects for the licensing of 2 GHz MSS systems.[75]

The IUSG supports the implementation of the developmental milestones proposed by the Commission in the NPRM,[76] measured from the issuance to a satellite operator of a conditional license to operate its user links (and, in the case of the filer of a Letter of Intent ("LOI"), from the issuance of a Public Notice or Declaratory Ruling establishing a milestone schedule contemporaneous with the licensing of U.S. space stations).[77] Failure to meet any of these milestones should automatically render a system authorization or spectrum reservation null and void.[78] In addition, the IUSG recommends the establishment of separate, strictly enforced milestones for the construction of in-orbit spares and ground segment facilities.[79] The strong likelihood that a number of 2 GHz MSS system proposals will never become operational renders critical the need for all reasonable means of gauging a system proponent's progress on its path towards qualifying for a full system license.[80]

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75 See id..

76 See id. at 39-41 (¶¶ 83-90).

77 See id. at 40 (¶ 88).

78 See id. at 39 (¶ 83).

79 See id. at 41 (¶ 90).

80 Provided that the Commission strictly enforces the construction milestones discussed herein, the Critical Design Review that it suggests may be unnecessary See id. at 40 (¶ 87). The Commission has already proposed to require that NGSO and GSO licensees commence construction within one year of authorization. See

(continued...)

The IUSG also urges the Commission to provide that the information filed by 2 GHz MSS system licensees and LOI filers regarding their compliance with the 2 GHz MSS developmental milestones be made fully available for public review. As the Commission's proposed use of milestones for the 2 GHz MSS takes the place of financial qualifications demonstrations -- which the Commission typically makes available for public examination -- assertions by licensees and LOI filers that milestones have been met should likewise be open to scrutiny by all interested parties. The Commission should dismiss out of hand any arguments that public exposure of milestone compliance information will result in the exposure of proprietary information; system operators can readily demonstrate the mere fact that construction has been commenced or that systems are launched or operational without resort to proprietary materials.

C. The Commission Should Establish a 12-Year License Term for 2 GHz MSS Satellite Systems as Well as a Renewal Expectancy.

While the IUSG has no objections at this time to most of the Commission's proposals with regard to the grant of 2 GHz MSS system licenses, it urges the Commission to apply to such systems a 12-year license term commencing with the start of satellite operations rather than the

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[80](...continued)
id. at 39-40 (¶ 85). As construction typically begins promptly after completion of the system design phase, it appears that little purpose would be served by establishing an earlier deadline for completion of system design. If, however, the Commission fails actually to enforce its proposed requirement that NGSO system operators commence construction of their first two satellites within one year of authorization (and that GSO system operators commence construction of at least one satellite in their systems within one year of authorization), the IUSG believes that interim deadlines such as the Critical Design Review may serve a useful function in assuring that the construction of authorized systems is actually under way.

10-year term suggested in the NPRM.[81] As the Commission indicates, enormous investments are required to establish the types of systems for which applications are currently pending before the Commission in this proceeding.[82] In addition, advances in satellite technology have extended the useful life of satellites to the point that many are operational more than 15 years from launch.[83] The IUSG believes that a 12-year license term would permit investors a more reasonable opportunity to recoup their substantial investments than would a 10-year term, and would accord better with the average useful life of satellites in the systems proposed for the 2 GHz bands.[84]

The IUSG also urges the Commission to adopt a renewal expectancy for 2 GHz MSS systems. The Commission must recognize that, in order to provide 2 GHz MSS service in accordance with the rules that it is contemplating, satellite system proponents must do more than design, construct and launch complex and highly expensive satellite systems, secure billions of dollars in investments to finance such efforts and secure rights to operate those systems in foreign nations. In addition, and unlike Big LEO MSS operators, 2 GHz system proponents may be required by the FCC to engage in extensive negotiations and pay what is likely to be substantial sums to relocate terrestrial 2 GHz incumbent licensees throughout the United States. Once

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81 See id. at 37 (¶ 80).

82 See id. at 37, 38 (¶¶ 80, 82).

83 See id. at 37 (¶ 80).

84 Provided that the Commission adopts the IUSG's proposed 12-year system license term, the IUSG recommends that the Commission require the filing of applications for replacement systems by no earlier than three months before and no later than one month after the end of the ninth year of the existing license (rather than the seventh year, as the Commission proposes. See id. at 38 (¶ 82).

having gone to this great expense and effort to obtain spectrum in which to operate and establish systems that offer great benefits to the U.S. economy and users the world over, the IUSG submits that 2 GHz MSS systems are entitled to something more than 12 years of operations and a promise of a renewal "if appropriate, unless extraordinary circumstances require a denial."[85] Indeed, if the lengths to which 2 GHz MSS operators are expected go to establish their systems do not merit a renewal expectancy, it is difficult to imagine what would.

D. The Commission Should Not Require 2 GHz MSS Systems to Incorporate Into Their Systems Enhanced 9-1-1 Capabilities.

The IUSG generally has no objection the Commission's proposals with regard to the provision of distress and safety services by 2 GHz MSS licensees, recognizing the Big LEO MSS licensees are under comparable obligations and that there are great similarities between the two services.[86] The IUSG would oppose, however, any plan to require 2 GHz MSS system operators to implement their systems with enhanced 9-1-1 capabilities.[87]

The IUSG states in the NPRM that it elected not to require Big LEO MSS systems to incorporate enhanced 9-1-1 capabilities because MSS "was still in the early development stages and facing more technological and international hurdles than terrestrial carriers," which are required to feature enhanced 9-1-1 capabilities.[88] It might be argued that Big LEO MSS is no

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85 See id. at 38 (¶ 82).

86 See id. at 42-44 (¶¶ 93-94).

87 See id. at 43-44 (¶ 94).

88 See id. (citing Revision of the Commission's Rules to Ensure Compatibility with (continued...)

longer in its early development stages, although only one Big LEO MSS system is currently operational and it is struggling with technical problems. It surely cannot be said, however, that the 2 GHz MSS system proponents in the instant proceeding do not continue to face substantial technical challenges or international hurdles in establishing their systems. The Commission demonstrates as much in seeking comment on a host of complex technical questions regarding the implementation of enhanced 9-1-1 service to which there are no ready answers.[89] To apply an enhanced 9-1-1 requirement to 2 GHz MSS systems at this juncture would therefore be inconsistent with the Commission's prior holding.

Furthermore, as the IUSG has noted numerous times already, 2 GHz MSS systems will compete directly with Big LEO MSS systems. To place a costly technical requirement on one service and not on the other in such a situation would be distinctly inequitable and would place 2 GHz MSS systems at an economic disadvantage with respect to their competitors.

The imposition of an enhanced 9-1-1 capability requirement on 2 GHz MSS operators would be particularly unfair to those 2 GHz MSS system operators that have made the most progress to date towards implementing their systems. Such operators have already gone to substantial expense to design and construct their systems, and the addition of a complex new feature to those systems is likely to be extremely expensive. It may, in fact, be impossible for

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[88](...continued)
Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676 (1996)).

[89] See id. at 44 (¶ 94).

some systems at this late date.

E. No Useful Purpose Would be Served by the Creation of New Requirements for Service to Particular Communities.

The IUSG fully supports the Commission's observation that satellites are an excellent technology for delivering services to unserved, rural, insular or economically isolated areas of the United States, and affirms its aspirations to do just that.[90] The IUSG urges the Commission, however, not to attempt to create artificial incentives for the provision of such service that will only be subject to abuse.

The IUSG asks the Commission to consider that the coverage requirements that it has proposed for 2 GHz MSS systems already ensure that the entire United States will be capable of receiving signals from those systems.[91] Although the Commission has proposed not to place common carrier requirements on 2 GHz MSS system operators[92] -- and quite reasonably so, given that they will not hold themselves or their services out indiscriminately to the user public -- the Commission does propose to regulate the Earth station licensees or the retail service providers that access 2 GHz MSS systems as common carriers.[93] It is those entities, and not satellite system operators, that will market 2 GHz MSS service to customers, and existing common carrier regulations will obligate them to serve all customers indiscriminately -- including customers

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90 See id. at 44 (¶ 95).

91 See id. at 12 (¶¶ 18-19).

92 See id. at 33-34 (¶¶ 74-76).

93 See id. at 35-36 (¶¶ 77-78).

residing in underserved areas. Therefore, additional motivation to serve all parties that seek service, no matter where they may live, is simply unnecessary.

While simple rules requiring satellite operators to serve underserved communities would be merely pointless, the use of service to such areas as a criterion for the resolution of coordination disputes or as a reason for extending system implementation milestones would be distinctly harmful to the 2 GHz MSS. As indicated above, 2 GHz MSS system operators will not deal directly with end users, and thus can legitimately take only indirect credit for services provided to those communities. An 2 GHz MSS system operator therefore must not be permitted to claim priority over another in a coordination dispute based on the communities that the Earth station licensees making use of its constellation may have targeted for service. To allow such claims would be to invite endless and meaningless disputes that can only delay the provision of important services to underserved communities and the rest of the nation as well.

For the same reasons, the Commission should not permit a 2 GHz MSS system operator to claim credit for anticipated service to particular communities as a means of obtaining an extension of its developmental milestones. Plainly, any such claims would be nothing more than unverifiable promises, made as they would probably be years before the services in question would commence. If the Commission expects its system milestones to have any utility at all as a means of preventing spectrum warehousing, it is important that it not allow empty arguments for their abrogation well in advance of the time most systems will be expected to meet them.

The IUSG urges the Commission to keep in mind throughout the instant proceeding that the availability of 2 GHz MSS -- to currently unserved communities in the United States as well

as to the rest of the world -- will be governed in large part by the cost of providing such service. The Commission can best ensure that the cost of service to customers is affordable by making every effort to forego unnecessary regulation and by permitting the establishment of satellite systems in the most efficient, market-driven manner possible. It is for this reason that the IUSG advocates the adoption of the INEA, and, in accordance with that licensing plan, the establishment of all possible measures to minimize the cost of relocating 2 GHz incumbent licensees for MSS operators. In this latter regard, it is particularly important that the Commission ensure that 2 GHz incumbent licensees do not reap financial windfalls from the relocation process at the expense of satellite system operators.[94]

F. The Commission Need Not Adopt an Anti-Trafficking Rule for 2 GHz MSS Licenses.

The IUSG sees no need for the Commission to adopt a rule to prevent the sale of bare 2 GHz MSS licenses for profit.[95] Given the substantial expense involved in preparing, filing and prosecuting a 2 GHz MSS system application through the Commission's licensing proceeding -- not to mention the other proceedings in which 2 GHz MSS system proponents have had obvious

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[94] The IUSG notes that MSS systems will handle far fewer calls per minute than do PCS systems. Thus, whereas an increase in the cost of service for a PCS service provider due to the cost of relocating incumbent licensees can be spread among many customers and results in only a minor increase in service charges, the corresponding increase in the cost of providing 2 GHz MSS as a result of relocation efforts will produce a quite substantial increase in rates that consumers may be unwilling to absorb. Consumers of modest means, many of whom may live in currently underserved communities, would be particularly affected by such increases.

[95] See NPRM, FCC 99-50, slip op. at 45 (¶ 96).

and vital interests -- it seems unlikely in the extreme that any successful system applicant will have been motivated to obtain its license for purely speculative reasons. If the Commission chooses to adopt an anti-trafficking rule for the 2 GHz MSS at all, the IUSG presumes that it will only apply that rule to Commission licensees, and not to non-U.S.-licensed satellite systems.[96]

G. The Commission Should Adopt Rules for the Licensing of Mobile Earth Stations Compatible with a 12-Year Satellite System License Term and with the Specifics of the INEA.

The IUSG generally supports the Commission's proposed application of the Big LEO rules regarding mobile Earth stations to mobile Earth stations communicating with 2 GHz MSS satellite systems.[97] For the sake, however, of consistency with the 12-year license term that the IUSG has advocated herein for 2 GHz MSS satellite systems, it urges the Commission to apply a license term of 12 years to user transceiver units as well.[98]

In the interests of expediting the establishment of a viable 2 GHz MSS, the IUSG also requests that the Commission not adopt new technical requirements such as position determination or out-of-band emissions limitations for 2 GHz MSS terminals.[99] Obviously, such requirements would necessitate the significant redesign of 2 GHz MSS systems as well as of the user terminals which will communicate with those systems. As in the case of the enhanced 9-1-1 capability that the Commission has contemplated for 2 GHz MSS satellite systems, such changes

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96 See id.

97 See id. at 47-48 (¶¶ 104-107).

98 See id. at 48 (¶ 106).

99 See id. at 48 (¶ 107).

at this juncture would be unduly expensive and burdensome -- particularly for those systems that are closest to operational status. The result would be significant delays in the provision of 2 GHz MSS service to the user public.

The IUSG would support, however, a requirement that 2 GHz MSS terminals be capable of operating in other parts of the 2 GHz MSS bands so as to ensure flexibility in the coordination and operation of 2 GHz MSS satellite systems.[100] Such a feature would track the requirement advocated by the IUSG herein for 2 GHz MSS satellite systems, and would greatly facilitate the coordination negotiations among the recipients of final 2 GHz MSS licenses that are an essential part of the INEA.

VI. Conclusion

For the foregoing reasons, the Commission should adopt the INEA and the other complementary measures recommended herein without delay.

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[100] Earth stations that are designed to communicate with NGSO satellite systems should be designed to operate in other parts of the entire 2 GHz MSS band, while those designed to communicate with GSO systems should be designed to operate in other parts of the sub-bands of regional 2 GHz MSS spectrum to be designated for GSO MSS systems.

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